REMARKS/ARGUMENTS

In the Office action dated April 9, 2007, claims 1 – 20 were rejected. In response, claim 1 has been amended, claims 9 – 11, 19, and 20 have been canceled, and claims 21 – 24 have been added. Applicants hereby request reconsideration of the application in view of the amended claims, the added claims, and the below-provided remarks.

Claim Rejections Under 35 U.S.C. 103

Claims 1 – 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Albulet et al. (U.S. Pat. No. 6,995,750, hereinafter Albulet) in view of Casebolt et al. (U.S. Pat. Publ. No. 2005/0190158 A1, hereinafter Casebolt).

Claim 1

Claim 1 has been amended to include the limitations of claims 9 – 11 as filed. As amended, claim 1 recites:

> "An apparatus for controlling the position of a screen pointer, the apparatus comprising:
> a movement sensor for sensing relative movement between the apparatus and a surface, and generating corresponding movement data, the movement sensor configured to generate compressed data representing the movement data, wherein the movement sensor is configured to generate the compressed data based on *a logarithm-based compression algorithm* and wherein the movement sensor is configured to identify *a difference between the movement data and the compressed data* for a current reporting period and to *adjust the movement data for a subsequent reporting period based on the identified difference*; and
> a wireless transmitter for wirelessly transmitting the compressed data.." (emphasis added)

According to claim 1, movement data is compressed using a logarithm-based compression algorithm. Additionally, the movement sensor performs an operation, described with reference to Figs. 3 and 4, which involves taking the difference between the movement data and the compressed data (referred to as the "residue" in paragraphs [0032] – [0045]) and using the difference to adjust the movement data for a subsequent period. In an exemplary embodiment, the technique involves reporting movement data as a short, rounded-log-base-2

representations in which any residue is retained and added to subsequent displacements, thus on the overage correcting for errors within a reporting period.

The rejection of claims 10 and 11 is supported in the Office action by reference to Albulet column 2, lines 10 – 25, column 6, lines 10 – 55, column 10 lines 1 – 36 and Figures 3, 7, and 8.

Applicants assert that Albulet does not teach or suggest the limitations of claim 10 and 11, as filed, and now incorporated into claim 1. Firstly, Applicants assert that Albulet does not teach or suggest a logarithm-based algorithm (claim 10 as filed). Albulet teaches a compression algorithm for movement data that uses 7 bits in which:

> "One bit is used for a sign component, 4 or 5 bits are used to contain precision information (a numerical component), while the remaining bits (one or two) are flags indicating how to process the numerical value contained in the precision information." (column 6, lines 47 – 51)

While the compression algorithm taught by Albulet specifies certain uses for each bit of movement data, the compression algorithm is not a logarithm-based algorithm.

Secondly, Applicants assert that Albulet does not disclose the "residue" function as recited in claim 1 (claim 11 as filed). In particular, having reviewed Albulet, including column 2, lines 10 – 25, column 6, lines 10 – 55, column 10 lines 1 – 36 and Figures 3, 7, and 8, Applicants find no reference to "identify[ing] *a difference between the movement data and the compressed data* for a current reporting period and to *adjust*[ing] *the movement data for a subsequent reporting period based on the identified difference*" as recited in amended claim 1.

Because Albulet does not teach or suggest the above-identified limitations, Applicants assert that a prima facie case of obviousness has not been established.

Dependent Claims 2 – 8, and 12 – 18

Claims 2 – 8 and 12 – 18 are dependent on claim 1. Applicants assert that claims 2 – 8 and 12 – 18 are allowable at least based on allowable claim 1. Further, Applicants assert that claims 12, 15, 17, and 18 are allowable for the reasons described below.

New Claim 21

New claim 21 is formed by combining the limitations of claims 1 and 12 as filed. New claim 21 includes the limitation "wherein the compressed data includes a total number of bits *that varies based on a magnitude of the relative movement.*" In the Office action, support for the rejection of claim 12 consists of citing column 6 lines 10 – 55 of Albulet. Applicants assert that Albulet does not teach or suggest the above-identified limitation of claim 21. Albulet does teach a compression algorithm that results in 7 bits of compressed movement data for each direction of movement regardless of the magnitude of the motion (i.e., the count size). see Albulet column 6 line 46 and column 8 line 40 However, nowhere does Albulet teach or suggest that the number of bits "*varies based on a magnitude of the relative movement*" as recited in claim 21.

New Claim 22

New claim 22 is formed by combining the limitations of claims 1 and 15 as filed. New claim 22 includes the limitation "wherein the apparatus is configured to wirelessly transmit the compressed data *only when there has been a change in movement since a previous motion report.*" In the Office action, support for the rejection of claim 15 consists of citing Fig. 3 of Albulet. Applicants assert that Albulet does not teach or suggest the above-identified limitation of claim 22. Albulet does teach that a packet containing a displacement value is sent (307) when the count is less than 32 (303). However, nowhere does Albulet teach that a displacement packet is not sent when the count is zero (i.e., no movement). Further, from Fig. 3 of Albulet it appears that a packet is sent (307) even if the count is zero (303).

New Claim 23

New claim 23 is formed by combining the limitations of claims 1 and 17 as filed. New claim 23 includes the limitation "wherein the apparatus is configured to wirelessly transmit button press information *only when the apparatus senses that a button on the apparatus has been pushed by a user.*" In the Office action, support for the rejection of claim 17 consists of citing Fig. 2 item 207 and column 6 lines 1 – 10 of Albulet. Applicants assert that Albulet does not teach or suggest the above-identified limitation of claim 23. Albulet
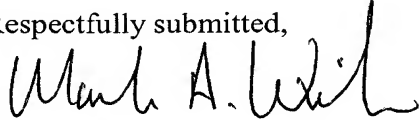
does teach an optical mouse with a buttons detector (207) that "obtains information about a user manipulating buttons (e.g. a left button and a right button) on mouse 161." Although Albulet teaches a buttons detector (207), nowhere does teach or suggest that information about button pressing is wirelessly sent *"only when the apparatus senses that a button on the apparatus has been pushed by a user."* As pointed out in Applicants' specification at paragraph [0062], button press information is typically sent every reporting period along with movement information. Only transmitting button press information when a button is actually pressed as recited in claim 23, rather than every reporting period, reduces the amount of data that is wirelessly sent from a wireless mouse.

New Claim 24

New claim 24 is formed by combining the limitations of claims 1 and 18 as filed. New claim 24 includes the limitation "wherein the apparatus is configured to wirelessly transmit button press information *using a lesser number of bits than there are buttons* on the apparatus that are represented by the button press information." In the Office action, support for the rejection of claim 18 consists of citing Fig. 2 item 207 and column 6 lines 1 – 10 of Albulet. Applicants assert that Albulet does not teach or suggest the above-identified limitation of claim 24. Albulet does teach an optical mouse with a buttons detector (207) that "obtains information about a user manipulating buttons (e.g. a left button and a right button) on mouse 161." Although Albulet teaches a buttons detector (207), nowhere does teach or suggest that information about button pressing is wirelessly sent *"using a lesser number of bits than there are buttons on the apparatus"* as recited claim 24. As pointed out in Applicants' specification at paragraph [0064], when a pointing device includes N buttons, typically an N-bit value is transmitted from the device to indicate which buttons were pushed by a user. In contrast to conventional techniques, using a lesser number of bits than there are buttons as recited in claim 24 reduces the amount of data that is wirelessly sent from a wireless mouse.

Applicants respectfully request reconsideration of the claims in view of the amended claims, the added claims, and the remarks made herein. A notice of allowance is earnestly solicited.

Respectfully submitted,

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